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10/815,494

03/31/2004

Jose A. Medina

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06/12/2007

WESTERN DIGITAL TECHNOLOGIES, INC.

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EXAMINER

RENNER, CRAIG A

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

06/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/815,494 | MEDINA ET AL. | |
| | Examiner | Art Unit | |
| | Craig A. Renner | 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006 & 05 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 1-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 28 August 2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11-13 are rejected under 35 U.S.C. 102(a) and/or 35 U.S.C. 102(e) as being anticipated by Kudo et al. (US 2003/0095357).

Kudo et al. (US 2003/0095357) teaches a magnetic recording head comprising a first pole (2/3/4); a second pole (6/7/8); a write coil (15), at least a portion of the write coil residing between the first pole and the second pole (as shown in FIG. 4, for instance); a write gap (5) residing between a part of the first pole and a part (21) of the

second pole (as shown in FIG. 4, for instance); wherein at least a portion (6, for instance) of at least one of the first pole and the second pole includes a CoNiFe film (paragraph [0031], for instance) having a high saturation magnetic flux density and having a composition of 50-70 weight percent of Fe and 3-8 weight percent of Ni (paragraph [0033], for instance, i.e., the saturation flux density is ">2.0 T," for instance, and " $0 \leq \text{Ni} \leq 25 \text{ wt\%}$, and $15 \leq \text{Fe} \leq 90 \text{ wt\%}$," for instance, includes values within the ranges 50-70 weight percent of Fe and 3-8 weight percent of Ni), the CoNiFe film having a thickness of not more than one micron (paragraph [0032], for instance, i.e., "thickness between 50 nm and 200 nm" is a thickness not more than one micron) [as per claim 11]; wherein the CoNiFe film has the high saturation magnetic flux density of greater than 2.2 Tesla (paragraph [0033], for instance, i.e., the saturation magnetic flux density is disclosed to be ">2.0 T," for instance, and CoNiFe where "the content of Co, Ni and Fe... ranges " $10 \leq \text{Co} \leq 80 \text{ wt\%}$, $0 \leq \text{Ni} \leq 25 \text{ wt\%}$, and $15 \leq \text{Fe} \leq 90 \text{ wt\%}$," for instance, includes materials having a saturation magnetic flux density of greater than 2.2 Tesla) and a composition of 58-62 weight percent of Fe and 3.5-4 weight percent of Ni (paragraph [0033], for instance, i.e., " $0 \leq \text{Ni} \leq 25 \text{ wt\%}$, and $15 \leq \text{Fe} \leq 90 \text{ wt\%}$," for instance, includes values within the ranges 58-62 weight percent of Fe and 3.5-4 weight percent of Ni) [as per claim 12]; and wherein the CoNiFe film is a soft magnetic film (paragraph [0033], for instance, i.e., CoNiFe where "the content of Co, Ni and Fe... ranges " $10 \leq \text{Co} \leq 80 \text{ wt\%}$, $0 \leq \text{Ni} \leq 25 \text{ wt\%}$, and $15 \leq \text{Fe} \leq 90 \text{ wt\%}$," for instance, includes soft magnetic materials) [as per claim 13]. As the claims are directed to a "magnetic recording head", per se, the method limitation(s) appearing in lines 8-10 of claim 11 can only be accorded weight to

the extent that it/they affect the structure of the completed magnetic recording head.

Note that “[d]etermination of patentability in ‘product-by-process’ claims is based on product itself, even though such claims are limited and defined by process [i.e., “plated using a plating solution including hydroxymethyl-p-tolylsulfone, the plating solution being configured”, for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process”, *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a “[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., “plated using a plating solution including hydroxymethyl-p-tolylsulfone, the plating solution being configured”, for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations”, *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al. (US 2003/0095357).

Kudo et al. (US 2003/0095357) teaches the magnetic recording head as set forth in paragraph 3, supra. Kudo et al. (US 2003/0095357), however, remain silent as to the CoNiFe film hard axis coercivity being "less than or equal to two Oe" and the CoNiFe film easy axis coercivity being "less than or equal to six Oe" as per claim 14, the CoNiFe film low perpendicular anisotropy field being "less than thirty five Oe" as per claim 15 and "less than twenty Oe" as per claim 16. Official notice is taken of the fact that it is notoriously old and well known in the magnetic recording head art to modify the parameters of magnetic recording head components during the course of routine optimization/experimentation. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the CoNiFe film hard axis coercivity of Kudo et al. (US 2003/0095357) be less than or equal to two Oe, the CoNiFe film easy axis coercivity of Kudo et al. (US 2003/0095357) be less than or equal to six Oe, and the CoNiFe film low perpendicular anisotropy field of Kudo et al. (US 2003/0095357) be less than thirty five Oe and less than twenty Oe. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the CoNiFe film hard axis coercivity of Kudo et al. (US 2003/0095357) be less than or equal to two Oe, the CoNiFe film easy axis coercivity of Kudo et al. (US 2003/0095357) be less than or equal to six Oe, and the CoNiFe film low perpendicular anisotropy field of Kudo et al. (US 2003/0095357) be less than thirty five Oe and less than twenty Oe since such ranges, absent any criticality (i.e., unobvious and/or unexpected result(s)), are generally achievable through routine optimization/ experimentation, and since

discovering the optimum or workable ranges, where the general conditions of a claim are disclosed in the prior art, involves only routine skill in the art, *In re Aller*, 105 USPQ 233 (CCPA 1955). Moreover, in the absence of any criticality (i.e., unobvious and/or unexpected result(s)), the parameters set forth above would have been obvious to a person having ordinary skill in the art at the time the invention was made, *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Response to Arguments

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Craig A. Renner
Primary Examiner
Art Unit 2627

CAR